

hold in which hazardous material in bulk is loaded.

(d) Combustible cargo must not be stowed in a hold in which a solid hazardous material in bulk is loaded.

**§ 148.03-13 Completion of off-loading.**

Upon the completion of off-loading of a solid hazardous material in bulk, each hold must be thoroughly cleaned of all residue of such material.

**Subpart 148.04—Special Additional Requirements for Certain Material**

**§ 148.04-1 Radioactive material, Low Specific Activity (LSA).**

(a) Authorized materials are limited to:

(1) Uranium or thorium ores and physical or chemical concentrates of such ores;

(2) Uranium metal, natural thorium metal and alloys of these metals; and

(3) Material of low radioactive concentration, if the estimated radioactivity concentration dose not exceed 0.001 millicurie per gram and the contribution from Group I material (See title 49 CFR parts 170 to 189, inclusive) does not exceed 1 percent of the total radioactivity.

(b) Each hold used for the transportation of any of these materials must be surveyed with appropriate radiation-detection instruments after the completion of off-loading. Such holds must not again be used for the transportation of any cargo until the radiation dose rate at any accessible surface is less than 0.5 millirem per hour and until there is no significant removable radioactive surface contamination according to 49 CFR 173.443.

(c) Each hold or barge used for transportation of any of these materials must be effectively closed or covered to prevent dispersal of the material during transportation.

**§ 148.04-9 Fishmeal or scrap, ground or pelletized; fishmeal or scrap, ground and pelletized (mixture).**

(a) The fishmeal or scrap, ground or pelletized and fishmeal or scrap, ground and pelletized mixture must contain at least 6 percent moisture by

weight but not more than 12 percent moisture by weight.

(b) The material must not contain more than 18 percent fat by weight.

(c) At the time of production of the material, it must be treated with at least 400 ppm antioxidant (ethoxyquin); in the case where the material contains more than 12 percent fat by weight, it must be treated with at least 1000 ppm antioxidant (ethoxyquin) at the time of production.

(d) Shipment of the material in bulk must take place within twelve months of the date of production.

(e) The temperature of the material to be loaded must not, at the time of loading exceed 35 °C (95 °F), or 5 °F above ambient temperature, whichever is greater.

(f) The material must contain at least 100 ppm antioxidant (ethoxyquin) at the time of shipment.

(g) Each shipment of the material in bulk must be accompanied by a statement in which the shipper certifies:

(1) The moisture content of the material;

(2) The fat content of the material;

(3) The concentration of antioxidant (ethoxyquin) in the material in ppm at the time the material is loaded on a vessel in bulk;

(4) Date and place of production of the material; and

(5) The physical state of the material (ground, pelletized, or mixture).

(h) Temperature readings must be taken three times a day and recorded. If the temperature of the cargo exceeds 130 °F and continues to increase, ventilation to the hold must be restricted.

**§ 148.04-13 Ferrous metal borings, shavings, turnings, or cuttings (excluding stainless steel).**

(a) This section applies to the stowage and transportation in bulk of hazardous materials described as ferrous metal borings, shavings, turnings, or cuttings on board vessels (excluding stainless steel). However, unmanned barges on which the article is stowed for or transported on a voyage entirely on the navigable waters of the United States are exempt from the requirements of this section. Ferrous metal borings, shavings, turnings, or cuttings (excluding stainless steel) must not be

stowed and transported in bulk unless the following conditions are met:

- (1) [Reserved]
- (2) All wooden sweat battens, dunnage and debris must be removed from the hold before the article is loaded.
- (3) During loading and transporting, the bilge of each hold in which the article is stowed or is to be stowed must be as dry as practicable.
- (4) During loading, the article must be compacted in the hold as frequently as practicable with a bulldozer or means that provide equivalent surface compaction. Upon completion of loading, the article must be trimmed to eliminate peaks or mounds and compacted.
- (5) Other cargo must not be loaded in a hold containing the article if:
  - (i) The cargo to be loaded in the same hold with the article is another hazardous material as defined in this part or a combustible material;
  - (ii) The loading of the article is not completed first; and
  - (iii) The temperature of the article in the hold is above 130 °F or has increased within eight hours before loading of the other cargo.
- (6) During loading, the temperature of the article in the pile being loaded must be less than 130 °F.
- (7) Upon completion of loading, the vessel may not leave the port unless:
  - (i) The temperature of each article in each hold is less than 150 °F and, if the temperature of the article in a hold has been more than 150 °F during loading, the temperature of each article has shown a downward trend below 150 °F for at least eight hours after completion of loading of the hold; or
  - (ii) The vessel intends to sail directly to another port that is no further than twelve hours sailing time for the vessel concerned, for the purpose of loading more of the article in bulk or to completely off-load the article, and the temperature of the article is less than 190 °F and has shown a downward trend for a least eight hours after completion of loading.
- (b) For the purposes of each temperature requirement of this section, the temperature of the article is the highest temperature taken between eight and fourteen inches below the surface

at ten-foot intervals over its length and width.

(c) The master or person in charge of a vessel that is loading or transporting the article must ensure that the temperature of the article is taken:

- (1) Before loading;
  - (2) During loading, in each hold and in the pile being loaded at least every twenty-four hours and, if the temperature is rising, as often as necessary to ensure the conditions in this section are met; and
  - (3) After loading, in each hold at least every twenty-four hours.
- (d) During loading, if the temperature of the article in a hold is 200 °F or higher, the master or person in charge of the vessel must notify the Coast Guard Captain of the Port and suspend loading until the temperature of the article is less than 190 °F.
- (e) After loading:
- (1) If the temperature of the article is 150 °F or above, the master or person in charge must notify the Captain of the Port and ensure that the vessel remains in the port area until the conditions of paragraph (a)(7)(i) of this section are met; or
  - (2) In the case of a short-duration voyage to which paragraph (a)(7)(ii) of this section applies, if the temperature of the article in a hold is 190 °F or above, the master or person in charge must notify the Captain of the Port and ensure that the vessel remains in the port area until the conditions of paragraph (a)(7)(ii) of this section are met.
- (f) Except for shipments of the article in bulk which leave the port of loading under the conditions specified in paragraphs (a)(7)(ii) of this section, after the vessel leaves the port, if the temperature of the article in the hold rises above 149 °F, the master must notify the nearest Coast Guard Captain of the Port as soon as possible of:
- (1) The name, nationality, and position of the vessel;
  - (2) The most recent temperature taken;
  - (3) The length of time that the temperature has been above 149 °F and the rate of rise, if any;
  - (4) The port where the article was loaded and the destination of the article;

(5) The last port of call of the vessel and its next port of call;

(6) What action has been taken; and

(7) Whether any other cargo is endangered.

(g) To meet the conditions of this section, the master of a vessel that is transporting the article must ensure that each temperature taken is recorded.

**§ 148.04–15 Petroleum coke, uncalcined; petroleum coke, uncalcined and calcined (mixture).**

The material at 130 °F or above must not be loaded in bulk on any vessel.

**§ 148.04–17 Petroleum coke, calcined, at 130 °F or above.**

(a) The requirements of this part do not apply to bulk shipments of petroleum coke, calcined, on any vessel when the material is less than 130 °F.

(b) The material must not be loaded in cargo vessels when temperatures exceed 225 °F.

(c) Other hazardous materials must not be stowed in any hold adjacent to any other containing this material except as provided in paragraph (d) of this section.

(d) In holds over tanks containing fuel or material having a flashpoint under 200 °F, a two-to-three foot layer of the material at a temperature not greater than 110 °F must be first loaded into that hold. Only then may the material at 130 °F or above be loaded into that hold.

(e) The loading of the material must be as follows:

(1) For shipments in holds over fuel tanks, the loading of the two-to-three foot layer of the material at a temperature not greater than 110 °F (as required by paragraph (d) of this section) in these holds must be completed prior to the loading of the material at 130 °F or above in any hold of the vessel.

(2) Upon completion of the loading described in paragraph (e)(1) of this section, a two-to-three foot layer of the material at 130 °F or above must first be loaded in each hold (including those holds, if any, already containing a layer of the material at a temperature not greater than 110 °F) in which the material is to be loaded in accordance with this section.

(3) Upon the completion of the loading of the two-to-three-foot layer of the material at 130 °F or above in each hold, as required in paragraph (e)(2) of this section, the normal loading of the material at 130 °F or above may proceed to completion.

(f) Personnel must be warned by the Master of the vessel or his authorized representative that calcined petroleum coke loaded and transported under the terms of this section is hot and that injury due to burns is possible.

**§ 148.04–19 Tankage, garbage or rough ammoniate, solid.**

(a) The material must contain at least 7 percent moisture by weight.

(b) The material must not be loaded if the temperature in the material, before loading, exceeds 100 °F.

**§ 148.04–20 Sulfur.**

(a) When sulfur is loaded in a deep hold with general cargo in the 'tween deck hold above the sulfur, a dust proof wooden bulkhead enclosure must be built in the hatchways from the over deck of the lower hold to the weather deck forming a tight enclosure capable of preventing sulfur dust from entering the 'tween decks during loading.

(b) Ceiling must be made tight to prevent sulfur dust from entering the bilges; any chinking necessary in the way of tank tops or bilges must be made of noncombustible material.

(c) Cowl ventilators serving the hold into which sulfur is being loaded or discharged must be opened to provide circulation of air.

(d) No smoking is permitted on board the vessel and "No Smoking" signs must be conspicuously posted.

(e) If a metal chute is used it must be grounded using a flexible cable.

(f) Upon completion of loading, the sulfur must be leveled off. Any decks, bulkheads, or overheads containing sulfur dust must be swept clean or washed down.

(g) Other cargo, which is oxygen bearing, must not be stowed in the same hold with sulfur.

(h) An oxygen breathing apparatus, or proper gas mask, must be made available.

(i) A fire hose, preferably supplied with fresh water from a shore supply